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Archer A. St. John, Selter L. Melered Heyer, Art Editor

L. Nelered Hoyer, Art Editor
T. J. Underweed, Necessing Editor
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World's best duce bond ers, according to th British, are these Bress ster Bacotneers what









since set off, and terruner them as The ship must still also were done allow the places to lake-off and limb sources of control of the still sti

OVER THIS WAS

chairs in which the pilots can law in their bulley fring kits. Each squadren has a recommendation of the squadren has a recommendation of the squadren has a recommendation of the squadren for the squadren for cognition, and greater them instruction. Unsuity Captain of the chip and the Chair can be squadren for action to with the pilotodistic squadren to with the pilotodistic.

those planes will be already on the flight deep, each m as also teel place. The plane captain is a crewman who is respensible for the plane and coverything in it until the plane takes off. He supercontains the breaging of the accreast to the flight deek, the surrent on the flight deek, the place of the plane of the place of the place to the plane of the place of the place to the plane of the flight deek from which he nears away into the sky

deek from which he roars away from to the sky.

The first sign of action a whyThe first sign of action a whyThe first sign of action a whypotent sign your place. There is an unmediate rush from the
ready-score. The pibles climber
and the pibles of the pibles of the
picture of the pibles of the
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picture of
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mation to streak away on a distant tarpet. If the mission is one that calls for dive bombers, or torpedo planes, they must have fighter escort. The beaver machines take off first, and the tighters follow, so takeup their escorting motions.

ers follow, to takeup their excerting positisers.

As the carrier is always in
danger of attack by submarine,
the has to keep moving. Never
cace does abe cruine on a straight
course unless the is taking on
planes. Often she will fate on
two planes, and then change
course, coming book again on her
course, coming book again on her
control.

cogginal ocurse to pack up the Landing planes in action is a rough business. The machines have to be gotten aboard as quarkey as possible. Some of the per aboard. Thur shaps may be out of gas, or they may have had a consulty. Thur shaps may be out of gas, or they may have had a consulty. Thur shaps may be out of gas, or they may have had and immediately the flight-land, and immediately the flight-land, in officer man clear the deck to take the matching aboard. A minital whealth plane in the rea. short of gas land on which ever is nearest, and often undertake their next flight with planes from the carrier on which they have landed.

the contract on which they have on the contract of the contrac

inving and may cover hundred in inving and may cover hundred of miles during the action, it difficult for pilots to graque exact datasses they will have for the mission gas fashines are frequent. "The most bordy feeling in flying is to be returning from mission looking for your cars shid not be able to find it." I have fine a Navy fine.

Navy fine. All ship-based arreraft are fitted with rubber basis and escape kits in case of such emergencies, and pribts who land in the sea have a good chance of being picked by escorting destroyers, although their planes cannot be

An the hiding power of the area.

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As the hiding power of the area.

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I have been a real of the power of the area.

I have a fairn a corrow was pair and a second a corrow of the area.

I have been a forgoin was the area.

I have b

saved and lived to flight another day. "You have to be prepared for things like that," commended a Navy filer, "You can be sure if the also parts that way, there is good reason for it."

Deck-landing is a comparatively simple task even with fast-insting fighter planes; the forward another of the also planes;

is speed immediately the plane's tell goes down, the retayding on cables each the tail wheels. We we plane come to a hell in a very of short space of time. Heavy dive bombers and turpedo planes can go be gotten in safety even if their can fine have been disameted.

plane tome to a hold in a week of the control of th

on allest his. The target is burning. I am returning with all excrept.

On the way back to the ship the pilots may observe the tell-tale feather of a submarum persong fromediately the report is made to the ship with the de-

is sighted every gun available is trained on the ippt. Some of the fighter planes protecting the fisher, which usually carry dept charges, thy down to attack, while others continue their patrol. Improved defeasive measure applied to carrier operation have manusty to attack. Each contribution of manusty to attack.

apprise to carrier operation have mannly to achieve Back carrier; a equipped with a special radi devoce that gives the position of each radial radia radial radial radial radial

tions, several carriers operate besent and subtractives, and each prigrad the other the profession of its
and subtractives, and each priset the state the profession of its
and present there is concerned.
Against attack from the advanability of the other is a state of the
Against attack from the advanAgainst attack from the advanability of the other is a state of the
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sly from various angles, to sportion of defense is a dift one. The newest carriere great increased armane.





range than formerly, and the crew markinnen have a better where the "visiting" squafferors force the torped to a 'auuxchou'. In all the combett, every accommodation being stretched to the the currier depends metalty on the human eye. Lockouts with the less of the carrier is that it can

human eye. Lookouts with telephesis communication to the bridge are posted at frequent miturnial along the catwalks, at the bow and the stem and on the siland. On their eyes depends along the stem and the stem atoly a man sight a submartine or a torpodo waxos, be informs the bridge, and the sing alters course, often just is the nick of time.

Simultaneously the guiners go into action.

There are two main types of carriers in use today, the large ship capable of cerrying fifty to seventy-fire planes, and the oper-verted carrier, or smaller vessels that the fire force or in the contract of the

chance of being hit has the big shape no their light capacity. The big carriers are practically off-contained are stations. Belew decice they have repair chops where crewmen can undertake the big carriers are practically any repair that could be done on land. Spare parts and spare plaines are carried, there One of the most important uses of the carrier is that it can be employed to transport six power quackly to any desired theater of war. The U.S. Navy demonstrated the utility of such ships when the USS Weep was leaded with Spitifres and dis-

leaded with Spitifres and dispatched to Malts, where the planes took off, jorned in the six tattle in progress and then landed ent the sland, while the carrier During the North African campaign, the U. S. carriers brought Navy fighter planes and groatbomborn from the American Atlantic coast, and successful grablantic coast, and successful grab-

lantic coast, and successfully subduced the Vichy arr resistance while the troops Isaded under the cover of the guns of the U. S. and Hritash Seets. With the exposition were also carries carrying Isad-based aircraft, which took off from the carrier's coater of the carrier of the carcial carcial carcial carrier of the carcial carcia

the first in which the been successfully used our action. The U. 8, fought for three days, on which they never intediately their mismilitary there now over.

Such use of carriers may have
jolied some of the die-hards on
both sides of the Atlantic, but if
proved that such floating air
bases are essential if we are to
bring our full air power to play
or any section of a coastime out
of normal fighter range.

Carriers are likely to play a

Contrets are instead to play a color in the sheet and a special part of the sheet and a special part of the sheet and a special part of the sheet and the sheet and could deliver such rapid and devastating blows that unless the contry were warned of the salack long enough to concentrate his afterwork were carried of the art could she power, extred of the art could be present that the salack concentrate his part of the sheet and the salack long enough to concentrate his sale power, extred of the art could be sheet as the salack control of the art could be salacked.

enemy were warned of the attack long enough to concentrate his alt power, centred of the air could be gatized long enough for troops to land. If you will leok at the map of Europe, you will see just where corrier operation would be of greatest use. To operate a carrier in the narrow waters on the British Charnel would be unwise and unnecessary because the British necessary because the British

ceast is itself an efficient air base for the dispatch of bombers and fighters. If an attack were to be made on the Norwegian ceast, a flect of carrier based plants would be essential. If the Atlantic coast of France were to be the larget of one invision spearhand.

Lorieus, the only feasible method of an atlack would be from carriers based some 100 to 150 miles of the shore. The shape would appear at dawn, dispatch their bombers and fighters, collect them at might and steam out to beas. Only by a concentration of German beembers, fighters, and con-power could such an armada con-power could such an armada

For attack on Japan we need carriers and more carriers and more carriers. We become fast carriers, and destroyers to act as their escoras. Only by the use of such craft can our air striking force be brought within reach of the enemy.

There are many people who believe that we must think of

There are many people who believe that we must think of carriers in the sente terms as we think of bombers. We must make mass earrier situation. The argent need is for carriers and more carriers. A naval expert who has seen a considerable immuni of carrier settien in the Meditermanous has stated that while one carrier is values about the while can carrier is values who because its striking feece is limited, three

carriers are sex times less vulnerable because their combined striking force can eliminate enemy attack bases, and they can



FIRST AMPHIBIOUS ATTACK by cerrier planes resulted in above for the Japanese at Wake. Sheat attack of the band to succeed past in the mainteen of Worth Africa when cerrier planes subdued our resultance let of planes as it takes to under—the Lexington, one of Uncle orders to absenden ship seed.

take one-best patrel over one. He outlined the future role of the carrier as long ago as 1941. Subsequent overtis have pastified insopinion. He was thinking them to be the carrier of the carrier of Casaria, and fissals, believing that a magor attack has a greater chance of success thus n series of tight pumbes.

went down fighting in the Pace in her battles, the Lexangit planes accounted for 23 em stups sunk or damaged, dispos of settle 10,005 enemy person Her fightlers shat down more one Japanese planes in the Ca Sea sotten alone. Her death ble was given not by the enemy by an internal explosion, who do. Ninely-dive per cent of the crew have survived This seventeen-year-old carrier had already survived two direct has by tempedoes and two by bembs, and serveral near musce. Had also been a modern ship, the might still be affect dody, indo the new curreers being built boday goe the best in samel construction, mined







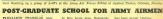


HANGAR DECK is connected to flight deck by mesme of one or exceenses alesstors. Spare planes are stoped and screeced on hanger deck. In peture above, F-6-P Willouts are being moved to the elevator.









That, in a nutshell, as the Army rolling held and dense jungle.

support, and air services. These as well as subsidiary complewest Pacific, from the Tumstan campaign, from the Battle of combat have served months or

PAGE 12

PAGE 14







tivities into blows that will purels from and hand, from and hand from and hand from and hand from the hand from t

latest methods of comisals, the reversel principles of all workness, because the control of the control of the shanding of the newest and most secret devices being used. As the school exists now, all As the school exists now, all are featible. They can be changed as new conditions of warfare demand and require changes. Begrening June 1, ASFSAT bemethy-testeds Army-Navy Stati College, located at Georgetom University, Washington, D. G. University, Washington, D. G. Lucaversity, Washington, D. G. they be considered the control of the composition of the control of the deep forward in bringing about the integration of land, air and

tion not only within one arm of the service, but among all of the service but among all of the control of the service but among all of the control of the service but among all of the control of the service but and the service but more than the service but and the service but more than the service but and the service but more than the service but the service but more than the service but more tha

are much the same as those car-

war; they're long and tedious,

officers will then enroll at the Army-Navy Staff College at

At the edd of their monus raining, usually two weeks of genop and two weeks in the field under simulated battle conditions, they go overees aimost as well-assoned as hardy veteranes. They have learned what it means to coordinate their activities, to fight as a team instead of as individuals.

navel forces in comist so necessary to victory.

The new program will select command and staff officers from the army ground forces, from the air forces, from the navy and marines. Those selected will sttend a mooth such at the Naval War College, the Command and Staff School, and AAPSAT, un-





LOADING GLIDERS and petting them tuto the sir in a hurry, under sirulated battle conditions.





AIR SUPPORT COMMAND rehearers a parachute investors whole pure are frong and bombe bursting

capabilities to the stance. The and Out of Monte of the Control of

Army Air Forces Board.
The Army Air Forces Board.
The Army Air Forces Bebaseded by a small compact go of high railung experiences of high railung experiences and the second Thre decisions of the based of the second Thre decisions of the based of the programment of the settled in Department of the settled in Department of Taxotesia Deve more, needed by Brugadier-dereal Orderon Savoille. This department is charged with treatment of the progress whose results of the progress have revolution of the projects have revolution of the projects have revolution.

ment is crivegee with remembrous responsibilities, and already secret exertain econtait procedure. In many instances the work has resulted in sensithing also blown against the Axis. the Bettle of the Blazarick See, is technique sow being studied and further developed by this department, enabled American partners to stake a secret of the second of the

than those of the United State
than those of the United State
territies and precedure in cell
that mee will be an perfect
that mee will be an perfect
that mee will be an perfect
that mee of the state
that the state of the stat

Many of the problems worked out by the men who will evenbuilty go overseas, no straighted combat problems from the current war, of buttles that have not yet began, or are underway at the present time. For instance Air Support in working on a groblem that concerns the Southwest Predit. See a landing Army will seed as





LL AIRMEN are shown the operation and power of INSPECTING THE MACHINE GUNS of a





which men often keep, "Have you Under Air Support comes the stomachs are taken care of auto-Air Services of Supply is set up The general depot has two ser-

way between the depot and the





SPITAL EVACUATION is part of the in

Income a 4.000-foot lending field so



during a practice attack on an AAFSAT our base



the sky. Each service center takes care of all the needs of eight com-This means supplying clothing

Mobile gasoline overs supply

fully armed and alerted. Foxholes It's hot, it's often back break-

with rifles by their sides. Divy



LEESBURG SERVICE CENTER projuges once there



IN A CAMOUFLAGED AREA of Central Florida, gir corps techniques repoir a demostd proseller

TACTICS TOUR

A Reporter For Flying Cadet Describes Experiences, Buxsing, Bombing and Strafing During Mack Battle Staged in Florida by The School of Applied Tactics THEY sing a popular sone in

School of Applied Tactics at Or-

nine needles. Setting in the rose his emotions and reactions. We roused off Orlando's giant

tack Bernberg Wo're too close to

off test above the tree tons. It moved. We cut currelyes loose about 1,000 feet, and come in on

The pace of my tour moved

rolls, and every other type of

JOHN FORNEY RUDY

HE author at the end of he veyance He was promised at the beginning of his tour be would see all at the world's most urique air school. He dis,

> demonstration of a mock invasion yes worked out meterolously on

paper, by slide rule, by instruc-



SPECIALIST OR ALL-ROUNDER

Have we too many airplane types?

four basic sections, attacking the property of the property of

chading gillers. Gengany jesses we different kinds of averant troop transport, including patterns, one of which was remeated on the second to the second to the second to the second the second to

principles is snowed by the states of the care of any an ageometric to situate GETEROUS, agold not wen be tasted of Bettain, because she included the overwheching superiority of spitter aversati, which would have enabled her to knock out the British fighter accreait, but the stress of the state of the spitter acceptance of the stress of the state of the spitter acceptance of the

arrived, the result might have

range Benudghter

attacks on German sirtlelds in Greece by Blenheims and Besufighters, both carrying bombs.

have. In a fighter he sacrifices











MESSERSCHMITT MF-109#

find any approach to the perfect the use the R.A.F. have made of the Douglas Boston Havon, known to us as the A-20. The He was first used as a night fighter prainst the German raiders over Britain, R.A.F. Bomber Command amployed it for short day-

is being used as a low-flying sttack plane equipped with bombe The Hayne is only one ex-

good all-rounder, even though fighter became a day homber, or German 1918 retreat, when the

When this war broke out, designers had very set ideas on mill-

Then things began to happen After the Luftwaffe suffered so

were executed by the twin-motored ME 110s equipped w in at high speed, dropped the effort to get a target. With a speed of 350 mph, and cerrying

a ton of hombs, the ME 110 was them, he mucht have done conaderable damage After the sucthree made its appearance as a In the meantime the British were extemporizing.

ricenes making bombing raids and the word "Murrybomber" damage to enemy shipping in coastal waters. Armed with four ships, using their cannon alone Hurrscapes were being used ef-

German tanks which were then One function of the Murricans

Murricanes on a days bombins feet to under 1000, drooped out

high speed, high altitude photographic work. Strapped to

precious pictures. They have fighter The B usually make it. The Hurri-cane is squatic, too It was ricane, designed in 1925, was

Britain's second rank high alti-

The only reason why these ma-

nault got bemb racks fitted.

put an iron belly on the ME 109

Now let us consider specialist

(P-40). The P-40 seems to be as ing a plane for every purpose. European nations were forced in 1926 troop straing and bombing. At they flew with hambs on their laps, until Ganeral Chen-Africe, with the RAF, the Kittyhawks and Tomahawks Take our fighters. For inter-

ception or defensive action



TOCKHEED 5-38 FIGHTNING



DE HAVILLAND "MOSQUITE says that the P51 will be the best

There is a story behind the creticz were called in. The result

Firms Gen. The Mustane

nado, but this is likely to be in the same class as the ME 1090 and the new Spottire. Features these Brytish single motored fighters are high rate of client extreme maneuversbillty of taking on the best German German bombers. The British enough of each type to win air

tions can keep all types flying In studying this formidable

How many types of planes do

Disserting Clark	Ukpo Span	England	Axio
1 Heavy Barabar	201-E-201-R	Stiller Lancasier Hellick	Besikel 177
2 Median Sanber	3-25-28	Westington Elembers	Hetaket III Dictory 115-E Juniorit II (also dire Eumbern)
3 Light Sumber	T-23	Scenaria Schooled (Eghten)	ME 200-E
4 Lond little Bomber	A-DI Vengenzze		301 65-35 451 aks)
3, Name Day Rouber	Departies Curtin Belieber	Signs (nice a fighter)	
4. Land Stud Torpedo Boother	AND Elected	Treasfart Swarshah	976 5%
1. Naval Turpedo Bomber	755-1 Averager	Resident filteride	
E. Bacannatinazor	7-8	P-21	Hamiltel
† Pighter-Jakerpater Nigh Althoria Vindyen Althoria All Naund	P-01 P-02 P-03 P-03	Softhe IX Spitting and Typhous Hartistae Spitte and Hartistae	STATE.
10. Shipboard Fullsker	Writiset Current	Mirrort Fultage Bac	
II. Nghi Fighter	AMD	Revulutter A-30	ME-LASS
20 Transperi	Commendo Exprintant (Personnel) Chapter (Physiq Rast) Camirchicas	(American types)	717 80 Bioban Vecs 16

CURTISS C-46 COMMANDO

concentrating in the production of the best machine in each classification, we might save a let of maintenance and supply headaches.

Nations have a surfact of types, including some secolistic direct benders. Dive-bombers, Divers, Diversity, Diversit

America has made no such mustak with her diva kombary The Curties "Halldivar," the Douglas Devastator and the Vultae Vanguard are all well-armore well-armored machines, and have a good turn of speed. They are specialists, but their specialty

have a good turn of speed. The rappets has not been developed at the appears of the repeat of the re

Ih. bomb on their targets.

In the ranks of the bomb was have several instances specialists on both sides.

Footness and Liberator are United the same long distances weight he





ers, this to give and take bard kneeds. The British have the Starling, Mallica and Lancater, all designed in 1014 and sech designed in 1014 and man be heavily executed by quanta. These big British between as most capable of the and man be heavily executed by quiet and man be heavily executed by quiet and man be heavily executed by quiet and the property of the sech designed in the property of the sech designed in the property of the sech designed in the second of the sech designed in the second of the sech designed in the second of the

racia by daylaria before long. The day day and the British fast relief on that Blathenau. The day of the British relief on the British fast relief of the Br

to ss a specialist plane in the heavy bomber class, the CONTINUED ON NEXT PAGE

expects were not avail

pairs. At some air stations more various types in the air. Simi-

of sand. A peathboring square ron might have a plentiful supple ran could do nothing but wall in was the same with spares for

tel rank undergroupe

necessary for the renair if they Bil, and the transport planes, in the Junkers Bt. and the Heira

the Axis has fewer plane types Ferred with a long war, the standardination. If we can effect

and mass-produce it. The spe-

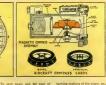




Magnets have the peculiar mariners in the direction it

ands. The sade of the worrest





Having a needle or bur that had always possite meagnetic method it is a simple matter to stands by a circular cand representing other directions. This is the principal of the directions. This is the principal of the directions of the meant valuable single unstrument to manufaction.

Greet improvements were made of the direction of the meant of the direction of

in the seaty magnetic compass by Lord Neviru in the latter part of Lord Neviru in the latter part of the long heavy needle of the earlier compasses with the short compasse with the short compasses with the short compasse with the short compasses with the short compasses with the latter compasses with th

slightly different in that the isself does not indicate the inself does not indicate the intelligence of the inself does not indicate the intelligence of the inself does not include the inself does not inself d

to desire that has a 150 desires. So it is 250 degrees and so on.

In case you have forgotten year divided in the control of t

Now you can see how whitable an intrament the magnetic compans becomes with its circular to the magnetic compans becomes with its circular to the magnetic control of the magnetic control of the magnetic control and the figure magnetic control and the figure that appears in the little window too the magnetic control of the magnetic control of the magnetic that appears in the little window too in which the plant is sheading A pilot merely determines, from his chart the bearing of the his distinction and then by referring to his compans he can determine in which direction to the control of the magnetic little which the control of the magnetic little which the control of the magnetic little magnetic little which the control of the magnetic little magnetic litt

tion of the compass for a miment there are a few more interesting points to consider. The case, or bowl, besides acting as a carrier for the scale holds the damping fluid. The magnetic element before very delicately belcall stem means were indeed to be able to be a pure to be a pure to be a pure to be a pure to the stem to the stem

Exactly in the center of the observation window is a vertical line, or strip of metal representing a line, known as the lubber line. This is used as a reference mark and the point, on the compass scale directly behind this line is the prographical heading of the strplams or the direction is specified.

The magnetic compass is sub-

monimoly known as compass errors. These are not all errors but somethings, and, and, they are something and, and, they are something and an experiment of the something and independable materianem. Only when its antes and limitations or taken into account by the extends the account by the extends the account of the extends the account of the account

of the marnetic

charts are based. Mn is mancompass points. A magnetic

grees to the east of true north.

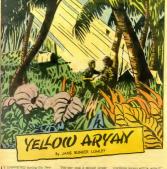
irozonie chari. The line is not straight but in offected by ore

Variation is dependent upon



viation. Thus as deficrent for





T HAPPENED during the New Guines compage, There are

PAGE 28

The ceptive ensed his bound "We desire to learn the position of the Great General. Tell me where we will find him and your trunk The nalm fronds whosboy mumbled Tare shrugged, "In the end.

Tare segunted at the Yank

Cowering in a fexbele in Milne Kokoda, the air base at Buna? expression in the Yank's even.

"We shall attack them all and ment in their place. The lives of

tated a long moment, then on e

Taro's teeth gleamed again in the surabine that pieced the pattern of leaves. "The air field! am sure."

"You were caught in the act of a spy in approaching the enemy base," Taro skipped through the words with great relish, "Worthare! You deserve to die! Yet you believed me!" Taro threw bark his head in such merriment that four other little yellow eirmen peered out of their shelter to investigate his mirth. They were in time to witness the bayonet plunged with cold accuracy through the heart of the Yank

Tare wiped his bayenet end stared et the youth. He had doubted the boy's courses. Strange that his eyes had not faltered, had not lost their quality of hope, not even at the yeay end. He shrusped and They went over the plans with

infinite care. "Here is the air base," Taro pointed out on the man "The Americans look to the oution is unknown to them See. Salamens, we sitteck from the Remember, unless the South! Remember, unless the Great White General is spon stopped, our Pacific bases will be

"We will drop our bembs until not one 'shoko' or 'herta' is left alive. Not e stick must be left whole after the attack. Every American plane is to be de-atroyed. Then we, sons of the Emperor, shall be heroes?

They lifted their planes up out Taro led his squadron in the familiar double-creat formation

Fierce exultation elemened his supple fingers on the controls. It was he who had sored the American youth lurking in the oungle border; he who guessed the boy might be a secut sent out hidden deep in the jungle maze: He, Taro Matsus, had orgamized orders that not one plane or man

of planes exhausted and their Taro was first to sight the air field. As on the reconhalssance map, the field was a smooth recwith pursuits and medium Systematically the raid began One soundress concentrated on

CONTINUED ON NEXT PAGE

"Objective demolahed." Tare

"Yes-s. So true." The voice

Turo felt his heart suddenly

bayonet:
"Facil" blazed Major Urmi



"I Teen Mattel, have turned the tide?"



AFRODYNAMICS SIMPLIFIED

FORWARD - STRAIGHT AND I EVEL FLIGHT RANK - RIGHT OR LEFT BANK





FOUR BASIC MOVEMENTS

TURN DIGHT OF LEET TURN













axis runs proportion year too nose of the plane to its tail.
When a plane is turning around its longitudinal axis, it is banking.
The wings and tail plane surfoces of an airplane give it sta-

Ment a momentary few without which we will be a modern the process of the control of the control

correct any susten tendency of the plane to reli in balance and the plane to reli in balance and oil of its turning effects are it balance normally as it flee on a studylit and level course. There are three tests of control. There are three tests of control mobility. They are movelable continuations of the myrolic which are used for balance and stability. The rudder is a movability. The rudder is a movability.

continuation of the vertical The elevators are movable thusations of the hericontal billier. The alterens are into the ampliane wingst. The rudder enables the ostern his plane, by equal to turn on its vertical axis. The cocket, the rudder is



LESS LIFT AND DRAG LOWERS WING







STICK PULLED BACK

PULLING THE STICK BACK RAISES THE ELEVATOR, CHANGING THE RAGLE OF ATTACK OF THE TAIL SUBSEQUENT RICEASE THE IN LOAD CAUSES IT TO DINO. THIS DOOP INCREASES THE ANGLE OF ATTACK OF THE AIRPLANE AND IT GOES UP. PUSHING THE STICK FORWARD LOWERS THE ELEVATOR, CAUSING THE TAIL TO RISE AND THE AIRPLANE GLIDES. When the right petal is depressed, a civile linkage consected to the right side of the respective consistency of the radder seeings to the right. This new position of the radder throws the supplies out of Salthrows the supplies out of Salthrows the supplies out of Salressure on the right side of the pressure on the right side of the all plane becomes greater than on the left side, with the result and the side, with the result side, with the tall moving to the left and the nase moving to the left and the nase moving to the right. The radder pedal turns the

The right pedal turns the of the plane to the right, of pedal turns the mase of one to the left.

rudder slone, however, is ifficient to provide control to he have a direction of the . The use of the rudder

must be accompanied by the bearing of the plane in order to would auddling or a first spile, would auddling or a first spile, plane or, its longitudinal axis, which runs from the plane's note to as sail. The bealing of the interest of the plane of the resulting edges of the wrigs, lever in the cockpit, known as helever in the cockpit, known as the size, it used to manupolate the size, it used to manupolate moved to the right, the allector on the right wrig as raised and on the right wrig as raised and on the right wrig as raised and the size of the size of the work of the size of the wright of the work of the wright and when the work of the work of the work of the work of work o

the right is because the record trailing edge of the right wing reduces the over-all cumber of the wing and thus reduces its lift, whereas the low-even trailing edge of the left wing and accesses its lift.

The stack, which is introdis-

seed in also task for one order to the regulation of the elevators. The elevators are movable consistency of the horizontal statuser and are barged to it. When the stack is moved ferward, the stack is moved for the stack is moved for the stack in the stack is moved. When the stack is moved cakewaid, toward the pilot, the raining adopt of the elevators are sweeted. When the elevators are sweeted. When the elevators are supported to the top presumer against the stage of the plane to be lowered and of the plane to be lowered and of the plane.

The airplane then follows in the same direction in which the stack is turned. If the stack is pulled backward, the airplane (CONSINUS ON NET PAGE) climbs. If the stack is pushed forward the stripane mozes down into a globe. If pushed to the left, it hanks to the left, it hanks to the left. If pushed to the right, it banks to the right. Unlike an automobile in turning, it is not necessary to held the costrol of an airplane until the costrol of an airplane until the larm has been completed. For

ing, it is not necessary to hole control of an airplane unit team has been completed, example, early a slight press. applied to the rudder to star note swinging in six turn. A same time the stick is possibly in the same directly control to the required bank. It the proper degree of bank been resolved in pressure or

create the required bank. We the proper degree of bank it been resolved the pressure on it radder is removed and the stiin returned to its neutral position. The plane then continues in turn until a slight pressure in it opposite direction returns it level flight. A gluie us achieved by thre

nose is allowed to drop slight below the horizon by relaxe back pressure on the stock. The procedure for taking a surplane off the ground as conparatively simple. It involvonly keeping the ship headstraight into the wind, maintain

ing a safe margin of speed as keeping the wings level. Her for measure, are instructions of taking-off and heading a Pap Cab.

First, the throttle is exceed full-open position and the sti-

is pressed forward to ruse the this level position and it is kept strength with the rudder. As flying speed is attained, a slight back pressure on the stack will lift the ship from the ground. This beck pressure is then momorniasity relaxed to man extra

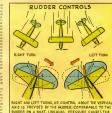
speed, after which it is reapplied to establish and maintain a normal climb.

Landing an simplane requires the development of accurate sudiment of distances, known as

judgment of distances, known as a good spend sense.

The ship approaches the landing area in a normal glide, brieded siste the ward, with sengate tilling. When between 10 and 15 feet from the ground a slight back pressure on the steek a began to break the glide and

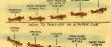
is begun to break the glade bring the plane to level it position. As the ship losses it gradually settles. During setting the sink is abovely seback to get the tail down as the plane finally loses in ing speed, it settles to the gr in three-point position. It are level terrel with the sill



AIRPLANE TO TURN



WISE DIRECTION



HOW TO LAND A PIPER CUB

WORLD'S FIRST AERIAL BOMBING



ATTHOUGH Glenn L. Martin
Amade be first berm sight
be genred on the first struct
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first be Ordanace Department and
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typics States Structure (1971)
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Martin biplane in a foreign land to first use in aeroptace for beenlang during a military entremental and the second seco

Outspring on the section of the vest coats of the Course of the vest coats of the vest of

on home sool. It did not

con city with a Martin plane.

oday that newspaper clipping country is presented in the country in particular the country in th

made of transparent material





A remarkable recombinery. Vol. Lines are minor differences which is which not can you form between the could as upper form the could be upper form of the up



CADET QUIZ?

Lin aerial navigation, the words footight stee refer to: the portions of ratho beams in which seponds fode obstacles cliticate where prices blackout from corpore mount the serial to mean lend on a fighing from?

the penal no man's lend on a lighting front?

Translate: The edman threw the O. C. into a brodie, then booked 'er.

3. True or false: Air scoops are of help in streamlining because they scoop air from the path of a plant?

Astronomy 63

of gament

10. A longeron is a: structural exember of the fuselogs on drest pilot's bathrone or a target steers in tow?

at lift you were out for "rhubarb" would you be looking for ground targets or enemy planes 12. True or false: the amplane was invested before radio? 13. To score the hits of easiet

18. To score the hits of easiet bombarders, the Air Corpa is using:
carifoguise usaves streepinon conversa or barrogs ballocus?

14. When a plana "hunta", what does it do?

15. The patron saint of avanture.

THE FIRST TRANSPARENT THE FIRST TRANSPARENT FLASTIG MOSE ON A ROMER WAS INSTALLED IN 1921, 1931 OR 19417

OR 19417

16 Is an aur-blind pilot one whose vision has been impaired by exposure to wind and smillight?

17. What is the difference between the canopy of an arguing and the canopy of an arguing and the canopy of a machine?

M 6 WERS

How and do you bring the terms
that we made to be the compact of the co

AMONG ARMY BOMBER SQUADRONS, WHEN IS A PIECE OF CAKE NOT A PIECE OF CAKE?

4. Kiles, aliders, belocottes, fying wings and avigens airs all aine is what major respect?

5. The become military sittles are likely to a capitre when greated so leng by had flying weather can be described as a scheduler of the control of the c

7 The serial disease equivalent to the "bends" among divers in called distribute exphoras alliasemo assails or properbolants.

4. What see the real macros of bellowing RAF planes Get Bully, Leed, Str. Macrof Corr Duffy, Leed,

9. Who is the Waterproof, Laex-exhood teacher who has been described as the outstanding an adder of the war?



Englishmen like Clora. Who is she?







recipitates into the form of rain. et us suppose that saturated taken from the air. The air is then affected as though the point, that any decrease in term-

ion, and any increase in tem-Another way to disruss daw perature to which air must be For example, let's take a weather

From the foregoing it shi be plain that the relation of the apart, there is little likelshood of rain, fog. snow, etc., because the overflows. But when the dew point and temperature are close together, may within about 5 do-

report which gives the tempera-

if ranged to 3000 feet. are too low. There are 10 basic COLD AIR

FORMATION OF STRATUS TYPE CLOUDS

FORMATION OF CIRRO CUMUL AND ALTO CUMULUS CLOUD.









HUMIDITY MEASUREMENTS

form end econogramos. They are the altitude at which they are Family A are the high clouds feet. In this group are the cirrus. cirrocumulus and the cirrostra-

In family B we have the middle clouds, altocumplus and altestratus. These clouds range from 20,000 feet down to 6500 feet. whose tops are below \$500 feet. with cases close to the ground. Stratocumulus, stratus and nim-The fourth group is family D. sleeds with vertical development. These clouds, cumulus and cumulonimbus, may extend from

In measuring the amount of water vapor in the air the terms relative humidity, shedute hu-

Relative humidity is the sture. In other words, if sir has Absolute humidity is the weight of sir. Expressed in grams of water per cubic centimeter, it try as ounces-or fractions of an

ounce-of water per cubic foot Specific humidity is the e mass of modet air. It is expressed in grams of water in a given number of grams per air Or, to get away from the metric

Humidity is measured by use a psychrometer. This instru-

eters attached torether to a eters has a muslin covering over the bulb. This muslin is wetted with pure clean water both thermometers are ing a lower reading in that thereters is taken and this is called pression the dew point and hu-

all are the result of water vapor



WEATHER SYMBOLS (CONCLUDED FROM LAST ISSUE)

PAGE 42







RAIN	INTERHITTENT SLIGHT RAIN	CONTINUOUS SLIGHT RUIN	INTERPUTENT MODERATE RAIN	CONTINUOUS PUCCELATE TAIN	INTELMITENT HEAVY HANN	CONTINUOUS HEAVY EAIN	RAIN AND FOS
SLIGHT * OR MISSERATE SAIN AND SHOW, MISSED	69 * MEANY * RAIN AND SHOW, PIRKED	70 *	71 * WITERWITEENT SCIGHT SMOW, IN FLANES	72 ** CONTRIBUTE SLEGAT SNOW IN FLANCES	73 * WITTERMEDIATE PROCESSES ANTERMEDIATE PROCESSES	74 * CONTINUOUS MODERATE CHINA IN TRANS	75 * HERMITEN
76 * ** CONTINUE CONTIN	77 * SN2V AND FOG	78 A	XE A COMPANIES OF FRANCE N LEAR BOOKS (SALETT)	80 T	SHOWERS OF SLIGHT OF PROPERTY SEA	82 F SHOWERS OF HEAVY RAIN	SHAWERS OF SLIGHT OR PROMINES SHAWERS

76 * **	77==	⁷⁸ △	79/	80%	81 V	82	83
CONTINUE OUS HEAVY SHOW IN FLANCS	SAZVI AND FOG	GRAINS OF SHOW ITROZEN DRIZZLES	FROME SAME ONNES (SAFETS	SHOWERS	SHOWERS OF SLIGHT OF MODERATE HAM	SHOWERS OF HEAVY RAIN	SHOWERS OF SCIENT OR PROMERTES
84 *	85 *	86 •	87 *	88 ద	89 ♠	90(17)	91 17
SHEWERS OF HEAVY SHOW	SHOMERS V DE SLIGHT V OR MODERATE	SHOWERS V	SHOWERS OF SNOW PELLETS	SHOWERS V OF SUBSICT OF MODERATE HAS	SHEWERS OF HEAVY HALL OR	THENDERSTORM	THERE SYSTEM IN LAST HER BUT NOT AT TH
	PAIN NAU JAN	AND DESCRIPTION OF THE PERSON NAMED IN	COST DATE:	OR ALL ADDRESS.	PARTY NAVI PART	_	DE DESCRIVE



DOORWAYS TO AVIATION

No Matter How Young or How Old You Are,

Now it the Time to Plo

The world as on the threshold

The world as on the threshold

The control of the plant

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tion and not just feel strongly

you saking to fit yourself for the art Getting ready to by or follow one of the many energy in the or follow one of the many energy and the control with fying does not man get into uniform when you leave smooth. It meets a green does more, a modern and progressive places" and do by thinging in you like "This applies to grins as well as boys. Women have socially a boys. Women have social as boys. Women have social to be a boys. Women have so be a boys. Wo

woman can be the absolute equal of a man.

Fortunately, today, educational opportunities are everywhere within your reach. You can start to take advantage of them almost as soon as you can read. The U.S. Office of Education, the Civid Arcensatics Administration.

U. S. Office of Education, the Cryst Aerocaustics Administratics which has launched the Hig theory of the Company of the Company through Aerocaustic Academics and the Army and Navy all was you to get in and learn, and kee learning. The Vittory Carps was organized by the U. S. Office of Education in American high school and the Aw Service Divinion.

the Victory Corps bas up for the purpose of ; the aviation branch work. It is designed po to enable you to take p



3,599 codets under us pre-flight training Grad be in communic of grou

i for at Yale fratersize under usill Haues's historic porticos. Pesas has taken half of Yale's for



war effort and to equip yourself for a position in civil aviation after the war

The first state in the training in but it speniarly known as Prelight. To qualify fee flying stating, you must take the nexsisting, you must take the nexsisting physical transling, milicy drill, and nermanities, or so of the meany available trade or so of the meany available trade or so the meany available trade or to see the requirement of the many promoted of slaght shoots, you can see the course of the course or to savel or military flying. The courses resultable to you, see the Victory Corps program, untoo, actifule silvent results, and a silvent results, and when the course or silvent results and silvent results silven

under the Victory Corps program, in addition to Pre-Flink accomanies, include air-age geography, meteorology, swaten mathematics, and the all-important ariation trades of welding, theet metal work, wood work, clementary design, savigation, and paraculate instruction.

The actual flying instruction is a Reparated activity, given by specially reflected frying schools

a spanned attnity, pren by specially relected frying schools with civilian instructor. There are two consense available, cle-which pidets then po to specificated training with the Army or Navy. There are already seven to operation in this country.

If you are at callege, you can awall yourneed of the opportunities of the control of the country to operate of the control of the opportunities of the opportunities. The Secretary of War, available, The Secretary of War, available, The Secretary of War,

Now, to traffic at a specialist to the Terry I. Stormer, and Secretary I. Stormer, and Secretary I. Stormer, and Secretary I. Stormer I. Stormer, and Secretary I. Stormer, and I. Stormer, an

exceptional cases sent to advanced technical fraining schools, or as the Army terms at, in very exceptional cases, made available for technical work which is catiside the Army but important to the war affect.

gram offers opportunity to study for Novy commissions to high rethool graduates or students with equivalent education from the ages of 17 to 19. If you are arenisted man between the ages of 17 and 22, you can apply to your commanding offers for recommendation to altered our recommendation to altered our versible end of the comversable end of the com-

Frequence of study last from cight to twenty-sour months. The six study to send the whole is the first study to send the whole is the first study to send the whole is the first so in transacion to though years to mathematics, selence English, hastory, mechanists and the first study and the study programs, which is traven as the Vill, arms to allow the source of the college, to desire the send of the selection of the first study and the send of the selection of the first study and the send of the selection of the first study and the send of the selection of the send of the selection of the send of th

(1) High school or preparatory school graduates who have attained their severseenth betthday and not their twentieth by July 1, 1943, regardless of whether they are attending college.

school sempre who will be gred unted by July 1, 1943, betwee the ages of seventiers and twenty (3) Students who do not he certainties of graduation from secondary school, but who as collect of inversity, and as collect of inversity, and as between the ages of seventies and twenty on July 1, 1943.

During the others transme.

New Australia way have mark
in all college settivities, provided
such activities do not interfere
with study bours. They are perestablished eellogie organisation
and fraternities, but they must all
times maintain the Navy
all times maintain the Navy
toulars of the palm may be obtoulars of the palm may be obpart of the palm may be obpart of the palm of the palm
to the palm
to

CONTINUED ON NEXT PAGE









FOURTEEN THOUSAND HIGH SCHOOLS in the United States are taking part in an essession program sponeered by U. S. Office of Education.

of its dight training program 1) Flight preparatory school-(2) War Training Service, C. A

(5) Intermediate flight training Applicants who have been

If you are in doubt as to where

district in which you live

A. A. The Army Air Corns' training



spement, production supervision and chemistry
The Civil Service Commis

DR ALEXANDER JOSEPH, well-known author, besturer and gover



necessary qualifications, while at public school or by taking courses

ian personnel, and from the Commission's central office in welders, painters, and riggers.

tions, provided you have the

The aviation industry is open

machine shop, gress and forming departments, metal fabrication. also accepts girls applying not intending to make aviation

the Office of Civillan Defense

Priore male or female, 18

Kach servor mem-

young people from twelve to

coled advantage over the next a I sighteen can be enrolled twelve, you can put your name tion given in model similane

in your spare time, and will be

take it: you can learn and

Then is the air age When the

Remember, we have only just



PAGE 50

NEW PIPER PRIMARY TRAINER



has visual indicators, in

THE Piper Alteraft Corporation his amounted the dewelcoment of a new allwelcoment of a new allself the piper of the control of the conlarge of the control of the control
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For now become sight the her salver wings to could charle the desert. Misson Provides Reposed

MARTIN MARAUDER

Landing Table pressing in the follow dawle provides a cut which, from the loss gains at purerais modern, in his restrict Memoric course to not feeling in history of the General Markov Company. Billiotory, effect required the Army acceptance fields, and the contraction of the Company of the

AAFSAT CONTINUED FROM PAGE 17

Force, is one of the most imporfactors such as whether it is to be a low, medium or high

fully last July 4. It also means the utilizing of dive bombers,

Darwin to Tenor. The bombers often go on 1,940-Mexico where they will bomb an aluminum slick On their way there and buck docern of P-47 cept them Returning bomber

the students, as well as the use

A Firms Fortress with a crew which is completely coordinated

and lesses are for less Great

perfect formation. It's a real sight But to accomplish such and their necks get stiff with

enemy is coming, where he is any damage, just as it is the Navy's objective to keep enemy shape from the Unsted States. Tactical development at

tremendous augmificance and im-Tuesteal development is merely developments and their analysamakes a new discovery resulting of instrument. He comes to the Tactacal development can be

new development; and third.

If all three phases are inte-The Air Corps no longer starts from the bettern and works to

all theaters of combat Tucuesi development is merely the ra-The Tactical Department AAFSAT now has more than 400 properts on hand. They are of

The School of Applied Tection thus is, in reality, exactly what its name implies, a school for work. In this manney, units and

11.748 MILES TO DUICA flown 11.748 males from

TACTICS TOUR tion and other methods. Then I was taken to the air

field where the problem was right in front of my eyes Knemy fighters roared over the field in criss-cross pattern, strafing objectives which their intelligence

Fast P-40's come from down For 20 minutes there ensued a terrific dogfisht in the skies over until the enemy was driven off The next day I took off in a formation of nine Flying Fort-

Bessie. Our objective was a bombing mission on a specied away. We carried 100-pound bombs, just heavy enough to make craters that could be seen. of Mexico with the Mitchell Bombers, and then to proceed on timed to minutes and seconds.

P-47 Thunderbolts, and other farter planes. The crews of the flying in, nothing can knock us down," a young crew member a few months out of high school

The formation looked easy, but and bomb bays were opened five bombs were dropped into a

LO99-foot diameter circle from Later we returned to score the bombing. Forty of the bombs. ter how much he knows about school. The young men may sit in

under simulated combat conditions, dropping live bembe and

Never before in history has a nothing short of smazing. These so banner lines in your home I couldn't help but be dumfounded at the power, speed and

altitude of our newest planes. of before. Others can be de-There is the P-18 Lightning. 20 millimeter cannon The fire

Then there's the new P-47 Thunderbolt, one of the beaviest

gets on a Messerschmidt or other There's the old standby of

more in the news. AAFSAT has One of the interesting facts

than any similar area in the United States. I talked with just come from India, Burma,

China, the Aleutians, Tunisia shown all of the different types of arms now being used by the power is terrific, better than any thing the Nagis or Jave have

recks, an unti-tank gun that can armor plate. It is a reciset type and protective clothing operate clothing are used to prevent when the Buzooka is fired, a as much as 29 feet out of the

There are all types of small machine guns, rifles, shotpuns unwards in sage. Then too, there I not only saw all of this arms-



In the Air

ARMY WEATHER CADET

1945, should graduate more than forecosting system. The new program, together with the Air Forces' program metropological

The existing program, which

training courses in the Army's wartime educational program, times the enrollment. The bacco time one year, with a week's furlough each three months stressed If they graduate after

Wheelwinds, smoon the most

MISSING FLYER, RECEIVED

MAJOR BARRINGER

WARNING UNITS GUARD INDEA FROM AERIAL ATTACK the Unsted States Army Air

Forces, who live high in the mountain fastnesses amid head-Japanese negsi attack

ARMY FIGHTERS FLY TO COMBAT THEATERS across the high seas to combat

theaters around the world, Locklaminar flow releaseable tanks land stretches vin the southern route, "jungle kits" are provided.

"POINT SNORKERS" ORGANIZED BY U. S. AIRMEN "Point Snorkers," an informal thatch on the upper physics nomy" bas been formed among members of the U. S. Army Air Forces in North Africa. Its mem-bership card is an Algerian b franc note, which is to be fur-Printed in link across the top of the note is "Point Snorkers" and Africa." Each member signs s Once elected, the membership

son at all times. He who fasts to over five francs to all members in the immediate vicinity. Once inducted, a member carried rehis upper his unless by order of

U. S. PILOTS CHAT Four United States Army Au

over the radio high in the sky during a dog fight. These four

their toll. As one American chassed a Jap bomber around the

island to get this joker in the

FLYING CADET BY-LINES

RRIG, OEN HUME PEABOD was a member of the famous

equipment needs at the front Later he become successively commanding officer of the 19th Pursuit Squaren, the Com-pants Group, March and Luke Fields, and then served five years as assistant professor. Military Science and Tactics at



dowed with a pleasant person-ality and thoughtful demeanor. Rated an excellent fier, he's extremely modest of his His buly son who was a pilot in the European theater and are not currently assigned to course of pilot training

Upon passing the prescribed Army Air Forces mental and

movement of the Army SUB-ZERO HURRICANES

TEST NEW STRATO PLANES. Man-made gales 67 decrees

temperature and air pressure engountered in serial battles ARMY PRE-AVIATION

Men between the ages of 18 and

No changes are contemplated in methods of the Civil Air Petrol

for war plants, will also be

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A DDE-ELIGHT AFRONAUTICS WORKBOOK

By HARRIST A. DALLES

TWO-FOURTEEN STAR FINDER

No in, clarific couper

TOTAL VIOLENCE OF APPLICATION OF THE PROPERTY OF THE PROPERTY

THE JOHN C. WINSTON CO.

CADET QUIZ

A. When it is an easy job. Any task considered simple to execute is called a "pocce of cake" by the bymber crews.

B 1921, on the Glenn L. Martin

C The all-clear air raid menal 1 The part of radio beams in 2 The aviator who was pulling advectising benners behind he spen coclept plane went into a steep dive followed by a zosem

4 All, like airplanes, are beaver-than-air aircraft.

4 Defeat, Lucusder, Spitfre.

2. Brug Gen Claure Cheronault 10 Structural member of II Ground targets. Marconi

radio in 1902; the Wrights made their first successful found in 1903. sound recorders set up in pill boxes around the taggets

15. St. Prancis (of Assist). 16. No. He is a silet who is

12 The cancer of an almines of If The concept of an airpiane is the transparent aliding portion of the cockput cowling. The concept of a paractrate is the part which billows out and supports it in

NOTICE TO STIRS CRIRERS In order to couserpe wood pulp, which is important in

the War Production Board stricting the use of paper. All manarine muhlishers of Flying Codet the curtail-

because Flying Codet is a this magazine. The May and June same. The July and serve This does not affect the number of magazines to which subscribers are ex-

sames of Fluino Cadet, even Sufficient paper has been magazine will be able to re-

ARMY AIR FORCES PILOT

73, Sardinas Dunn's primers mission was to locate an Italian

favorable weather conditions passing over the traplane base

ners and enemy polots agriced that an American plane had Answers to questions that appear on Paper 26 and 37 There are two German, three British and three United States sirptanes in the drawlegs on Pages 36 and 55 I Blackburn Skus, a two-place 2. Focke-Welf FW-199, a Germen single-place fighter with a two-row radial engine. German.
3. Greenman Per Wildest, used

RIGHT OR WRONG

fighter and also as a large-tessed plane. United States & Hawker Hurracons II, a single-plane, medium alittude fighter equipped with Rolls-Royce-Merlin equipped with Rolls-Royce-Merlin engine. British. 5. Focke-Wulf FW-189, twins chier. German.

6. Lockhaed P-36 Lightness, an bornber and for photographic recompassance. United States

equipped with Royce Morin X engine developing 6 Curtus P-40 F Warhawk and the first to be powered by the Bolls-Boyce V-type 1200 hp on-one built by Packard Under gine built by

U S. ARMY PLANE

several hundred miles at sea, The

mately two hours after the radiced call for help had been received. Then, wrapped an many layers of soft cotton, it was attached to an inflated rubber life raft and was secured be ropes in the bomb boy of a B-2 house, flight, the Liberator sight-

eral destroyers, and after an exchange of recognition signals it circled the leading distroyer until

at was only 50 ft, above the waves Crew members then cut the ropes holding the life raft and dropped a smoke flare to mark the location on the sea. The Liberator circled the position for ten minutes while sade the floating raft and bouled at aboard with grappling books. The destroyer's crew stood at al-



